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On the Proper Motion of the Double Star South 503.

By J. E. Gore.

Assuming that the change of position in the close pair is due to uniform rectilinear motion, I have computed the following formulæ:—

$$\rho^2 = 5{\cdot}76 + 0{\cdot}4225\,(t - 1885{\cdot}75)^2$$

$$\sec(\theta - 48^\circ{\cdot}04) = 0{\cdot}4166\rho.$$

The following is a comparison between the recorded measures and the positions computed from the above formulæ. The observed position-angles have been corrected for the effect of precession to 1880·0.

Epoch.	Observer.	θ_o	θ_c	$\theta_o - \theta_c$	ρ_o	ρ_c	$\rho_o - \rho_c$
		°	°	°	″	″	″
1825·07	South	134·41	133·61	+0·80	39·94	39·57	+0·37
1873·93	Dembowski	120·13	120·69	−0·56	8·08	8·05	+0·03
1875·21	„	118·63	118·74	−0·11	7·07	7·26	−0·19
1875·88	„	117·52	117·52	0·0	6·72	6·85	−0·13
1881·18	Burnham	99·29	98·54	+0·75	3·58	3·82	−0·24
1882·16	„	92·39	91·24	+1·15	3·28	3·34	−0·06
1883·11	„	82·58	82·59	−0·01	2·90	2·95	−0·05
1887·039	Tarrant	30·36	31·09	−0·73	2·83	2·54	+0·29

The proper motion of the brighter star is, therefore, 0″·60 per annum in the direction of position-angle 138°·04.

Note on the Bright Line Spectra of R Andromedæ and R Cygni, and on the suspected Bright Lines in R Cassiopeiæ, and on the Spectrum of W Cygni. By the Rev. T. E. Espin.

On the night of September 25 the 17¼-inch was turned on *R Andromedæ*, and, although the star should have been at its maximum at the end of July, it was found to have a magnitude of about 6·5. On examining the spectrum the F line was found immediately to be bright. The brightness of this line was so extraordinary that it appeared to extend outside the spectrum. Another bright line, presumably D_3, was also observed, and near this place the spectrum seemed to consist of several very fine bright lines. The spectrum had the usual prominent bands of the third type, but far in the violet glimpses were caught of a very large and obscure band. Unfortunately the sky clouded up before the spectrum could be thoroughly examined. No other chance of examining the spectrum occurred until October 17. The star had now greatly faded, and was estimated at 7·8 mag.

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It showed the usual third-type spectrum, and the F line was not certainly seen. At times it was suspected, but it had evidently decreased in brightness at a greater rate than the other parts of the spectrum.

R Cygni was examined on several nights, but the F line, if still bright, had nothing of the brilliancy which made the star such a remarkable object at the last maximum.

R Cassiopeiæ was examined on the night of September 25, and the magnitude was estimated at 7·3 It showed the usual third-type spectrum, but the bands are of remarkable size and intensity. Occasionally D_3 and the γ line of hydrogen were suspected bright, but not F.

W Cygni=Birm. 587=D.M.+44°·3877 was examined on the night of November 2 in strong moonlight. The usual third-type spectrum was seen, but no bright lines were suspected.

The Colours of Stars. By F. W. Levander.

In the course of certain investigations it became necessary to obtain a somewhat accurate estimate of the proportions of different colours exhibited by star-discs. As I am not aware of the existence of any statistics of a similar nature, the following table may possess some little interest for observers of coloured stars. It contains particulars of the tints, as described by various observers, of 4984 stars (arranged according to their magnitudes), which are to be found in the following catalogues:—

Chambers's Catalogue of Red Stars (*M. N.*, xlvii. 352) ...	504
Franks's M.S. Catalogue of 1730 Stars	1399
Herschel's Cape Observations	134
Tupman's Southern Stars (*M. N.*, xxxiii. 312)	91
Webb's Celestial Objects for Common Telescopes, 4th edition	2856

All observations in which any discordance appears have been rejected; in some instances the want of agreement was so marked as to lead one to imagine that the important factors of aperture and kind of telescope used must be answerable for at least some of the differing statements. It is also a well-established fact—but one not always sufficiently attended to by telescopists—that the education of the colour-sense is much neglected, especially in the case of our own sex. To avoid prolixity many of the similar tints have been grouped together.

No attempt has been made to discriminate between magnitudes beyond mag. 8. The same scale of magnitudes has, unfortunately, not been adopted in the above catalogues, but the differences in mags. 1 to 8, according to the various scales in use, are so slight that they may be practically ignored for my present purpose without much disadvantage.

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